



6AF4

UHF OSCILLATOR TRIODE

MINIATURE TYPE

6AF4

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

Voltage 6.3 ac or dc volts

Current 0.225 amp

Resonant Frequency (Approx.) 1000 Mc

Direct Interelectrode Capacitances (No external shield):

Grid to Plate 1.9 μ fGrid to Cathode and Heater 2.2 μ fPlate to Cathode and Heater 0.45 μ fCharacteristics—Class A₁ Amplifier:

Plate Voltage 80 100 volts

Cathode-Bias Resistor 150 150 ohms

Amplification Factor 15 16

Plate Resistance 2270 2130 ohms

Transconductance 6600 7500 μ hos

Plate Current 16 20 ma

Mechanical:

Mounting Position Any

Maximum Overall Length 2-1/8"

Maximum Seated Length 1-7/8"

Length, Base Seat to Bulb Top (Excluding tip) . 1-1/2" \pm 3/32"

Maximum Diameter 3/4"

Bulb T-5-1/2

Base Small-Button Miniature 7-Pin (JETEC No. E7-1)

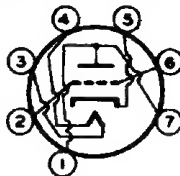
Basing Designation for BOTTOM VIEW 7DK

Pin 1—Plate

Pin 2—Grid

Pin 3—Heater

Pin 4—Heater



Pin 5—Cathode

Pin 6—Grid

Pin 7—Plate

OSCILLATOR IN UHF TELEVISION RECEIVERS

Maximum Ratings, Design—Center Values:

DC PLATE VOLTAGE 150 max. volts

DC GRID VOLTAGE -50 max. volts

DC GRID CURRENT 8 max. ma

PLATE INPUT 2.5 max. watts

PLATE DISSIPATION 2.25 max. watts

DC CATHODE CURRENT 28 max. ma

PEAK HEATER-CATHODE VOLTAGE:♦

Heater negative with respect to cathode . 80 max. volts

Heater positive with respect to cathode . 80 max. volts

♦ See next page.

JULY 1, 1952

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

TENTATIVE DATA

6AF4



6AF4

UHF OSCILLATOR TRIODE

Typical Operation as Oscillator at 950 Mc:

DC Plate Voltage	100	volts
DC Grid Voltage	-4	volts
From a grid resistor of	10000	ohms
DC Plate Current	22	ma
DC Grid Current (Approx.)	400	μ amp
Useful Power Output	160	milliwatts

Maximum Circuit Values:

Grid-Circuit Resistance:

For fixed-bias operation	Not recommended
For cathode-bias operation	0.5 max. megohm

- ♦ It is recommended that the heater be kept at cathode potential to minimize the effects of variation in the heater-to-cathode capacitance between tubes.

OPERATING CONSIDERATIONS

The mounting arrangement should insure that the tube is held secure by its socket. Unless this recommendation is followed, the generated frequency may change by as much as 10 megacycles per second. Use of a conventional miniature tube shield and external clamping arrangement are recommended.

The base pins of the 6AF4 fit the miniature 7-contact socket. The socket should be of the mica-filled, rubber, or ceramic type.

JULY 1, 1952

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RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

TENTATIVE DATA

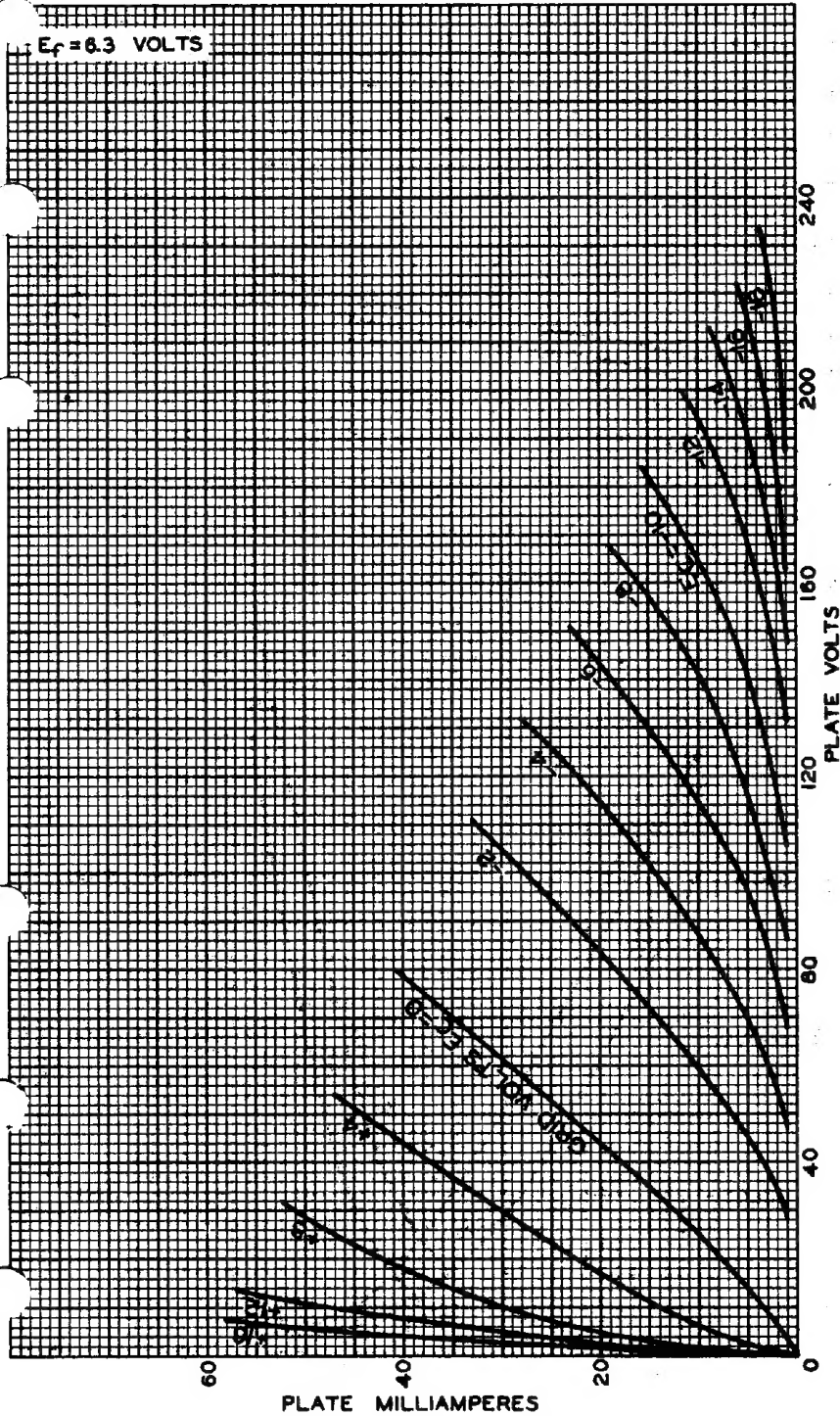


6AF4

6AF4

AVERAGE PLATE CHARACTERISTICS

$E_f = 6.3$ VOLTS



FEB. 20, 1952

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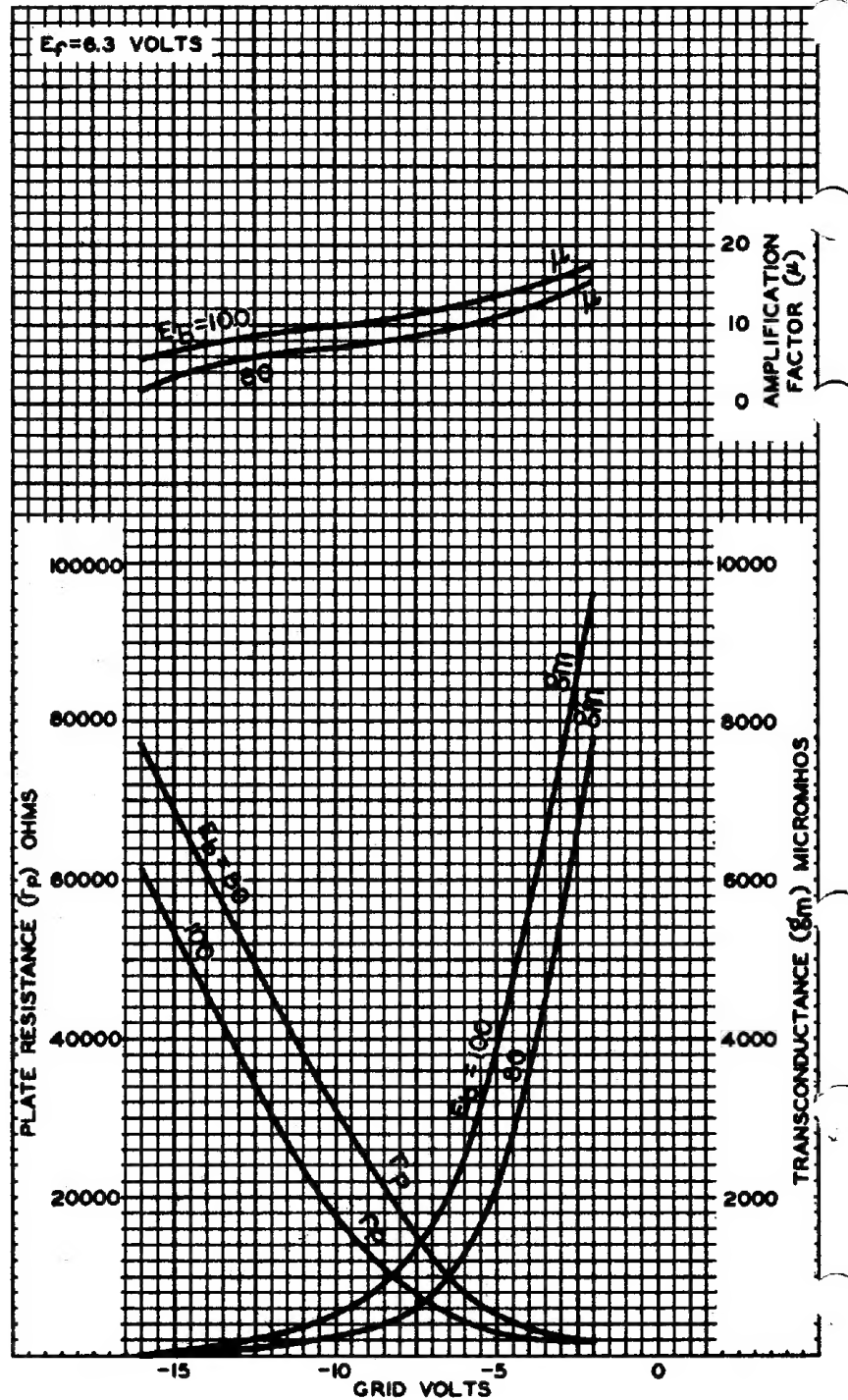
92CM-7756

6AF4



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AVERAGE CHARACTERISTICS



FEB. 26, 1952

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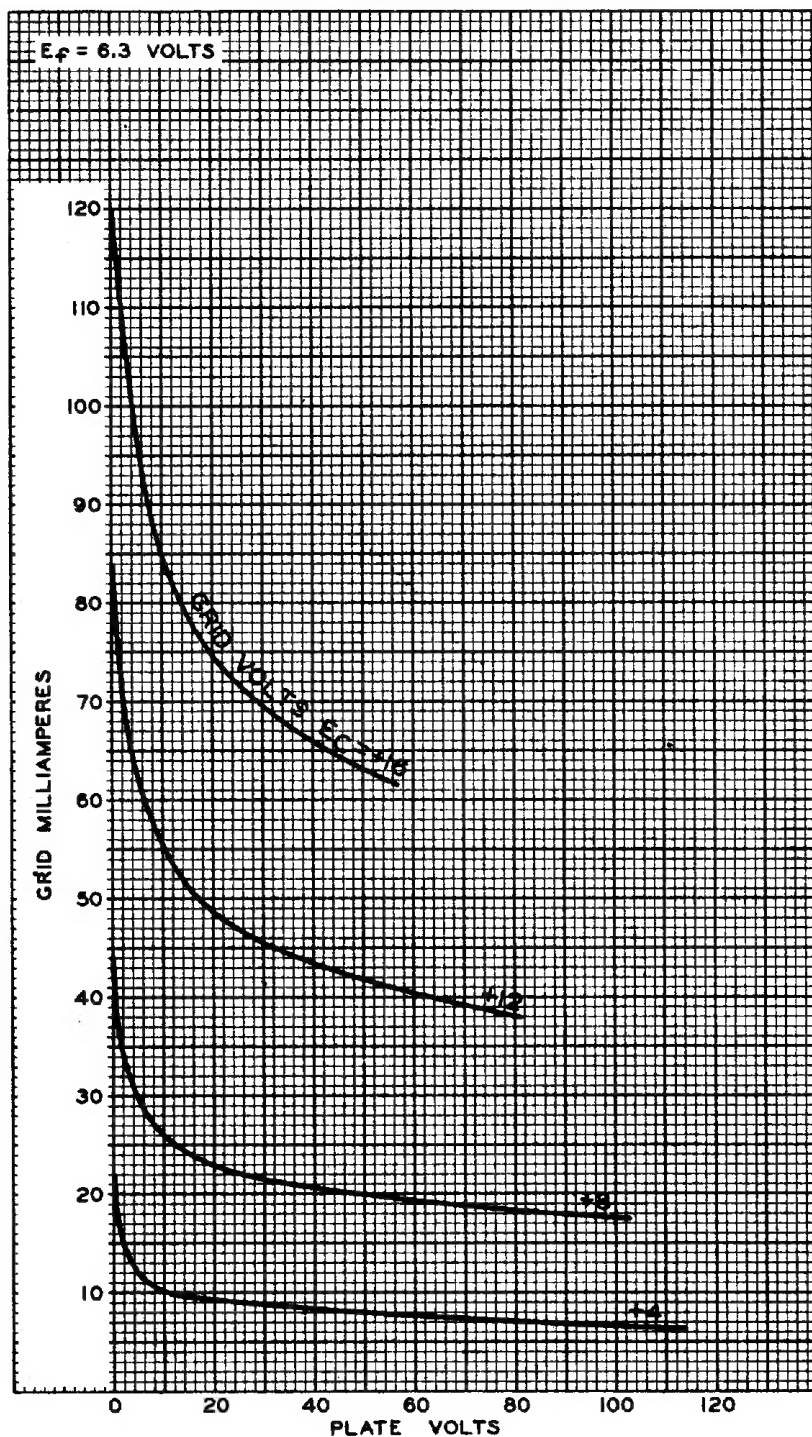
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AVERAGE CHARACTERISTICS



MAR. 19, 1952

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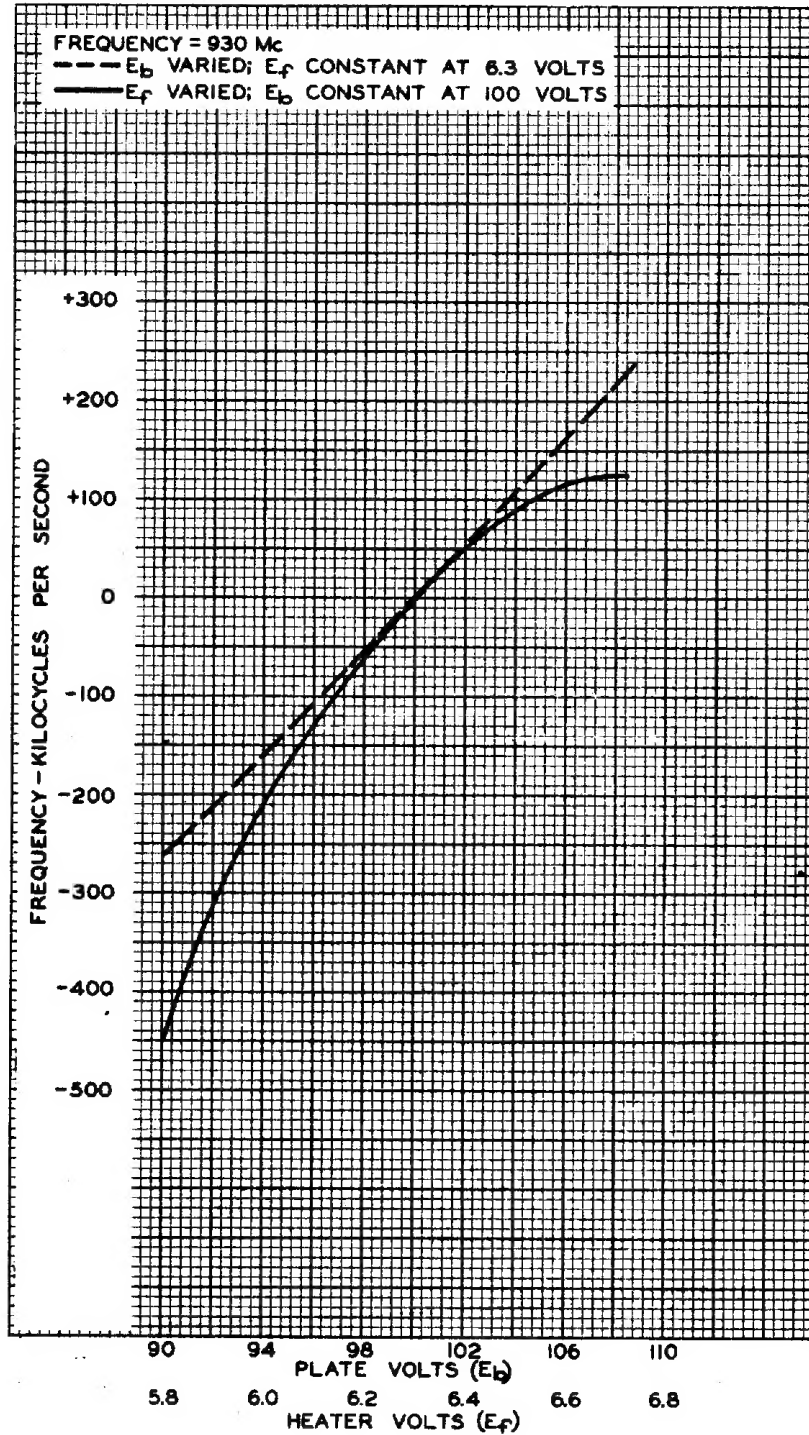
92CM-7759R1

6AF4



6AF4

FREQUENCY SHIFT CHARACTERISTICS



FEB. 29, 1952

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92CM-7762